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CLAIMS

1. A method of locating a potential source of fluid leakage in a fluid container includes the steps of:

circumferentially sealing a vacuum tight cover to a surface of the empty fluid container over a suspected source of fluid leak to form a bagged region of said surface;

removing the air between the cover and said bagged region of the surface;

measuring the vacuum between the cover and the surface;

comparing the measured vacuum with a predetermined acceptable datum vacuum value, and, where the measured vacuum exceeds the datum vacuum;

gaining physical access to the interior of the fluid container;

using a leak detector to check suspect areas from the inside; and,

recording the exact location of the source of fluid leaks.

2. A method of locating a potential source of fluid leakage in a fluid container as claimed in claim 1 and wherein the predetermined acceptable vacuum is determined by carrying out the first two of the steps listed in claim 1 on a surface of the fluid container in which there are no joins or seams and recording the maximum consistent vacuum achieved as the datum vacuum value.
3. A method of locating a potential source of fluid leakage in a fluid container as claimed in claim 1 and wherein the vacuum between the cover and said bagged region of the surface of the container is measured over a predetermined period of time and is compared with a predetermined acceptable drop in the datum vacuum value over the same predetermined time.
4. A method of locating a potential source of fluid leakage in a fluid container as claimed in any of the preceding claims and further including the step of using a leak detector to detect air leakage from said bagged region of the surface after the step of removing the air between the cover and the surface

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and if air leakage is detected appropriately repairing the cover or its seal to the surface.

5. A method of locating a potential source of fluid leakage in a fluid container as claimed in any preceding claim and wherein the leak detector used is an ultrasonic leak detector.
6. A method of locating a potential source of fluid leakage in a fluid container as claimed in any of the preceding claims and, where a potential source of leakage is located, including the further steps of:  
repairing the source;  
repeating the method and repairing any further sources found; and  
filling the container with fluid and monitoring it for fluid leaks.
7. A method of locating a potential source of fuel leakage in an aircraft fuel tank including the steps of:  
applying a bagging film to a surface of the empty fuel tank over a suspected source of fuel leak;  
removing the air between the bagging film and the surface;  
measuring the vacuum between the bagging film and the surface;  
comparing the measured vacuum with a predetermined acceptable datum vacuum value; and, where the measured vacuum exceeds the datum vacuum;  
gaining physical access to the interior of the aircraft fuel tank;  
using a leak detector to check subject areas from the inside; and,  
recording the exact location of the source of fuel leaks for subsequent repair.
8. A method of locating a potential source of fuel leakage in an aircraft fuel tank substantially as hereinbefore described and with reference to Figures 1 to 4 and 5A to 5L of the accompanying drawings.